

Appl. No. 10/707,519
Amdt. dated September 14, 2005
Reply to Office action of June 16, 2005

REMARKS

Claims 1-3, 5-8, 15-20 and 22 are rejected under 35 USC 102b as being anticipated by Nelson et al. (USPUB 2002/0075080)

- 5 Applicant asserts that the present invention as claimed in claim 1 is not anticipated by Nelson et al. (USPUB 2002/0075080) because Nelson et al. fail to teach "connecting an input of the loop filter to a constant voltage", as claimed in claim 1.

10 Referring to Fig.3 of Nelson et al., a reference voltage V_{ref} is coupled to an output of a loop filter V_{LF} via switches SW1 and SW2. In this way, the loop filter is not charged in its calibration state, and the voltage of the loop filter will be unknown (as determined by the last locked state) or "0" (i.e., ground, for there is always leakage current in circuits). According to Nelson et al., after finishing the calibration, the loop filter is switched to and the circuit begins to lock (see step 66 in Fig.6 of Nelson et al.). However, because the
15 loop filter was previously uncharged, there will be a further delay in the locking time required during step 68.

20 This is in contrast to the present invention as claimed in claim 1. That is, as shown in Fig.3 of the present invention, the Pre-charge circuit 311 is coupled to the input of the loop filter 310 via switch 308. In this way, the charge action is both applied to the loop filter 310 and the VCO 312, which not only provides a programmed voltage to the VCO 312 but also ensures the whole loop filter is charged to the desired voltage level while the calibration is taking place. While the PLL is in a locking state, the locked vtune (input
25 voltage of the VCO 312) is very close to the previous voltage of calibration, and the locking time of the PLL will be faster after calibration is finished and the circuit is switched to lock to the desired frequency because the loop filter 310 is also pre-charged.

Appl. No. 10/707,519
Amdt. dated September 14, 2005
Reply to Office action of June 16, 2005

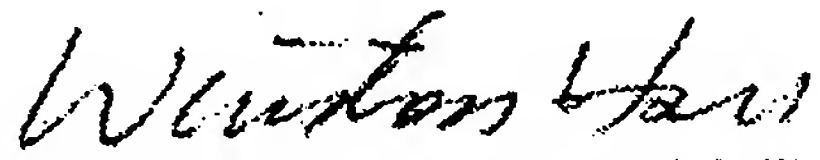
A similar argument also applies for the present invention as claimed in claim 9. That is, applicant asserts claim 9 is not anticipated by Nelson et al. because Nelson et al. fail to teach that "the input of the loop filter is connected to a constant voltage", as claimed in claim 9.

5

For at least these reasons, applicant asserts that independent claims 1 and 9 should be found allowable over Nelson et al. As the claims 2-8 and 16-22 are dependent on claims 1 and 9, respectively, if claims 1 and 9 are found allowable, so too should the dependent claims. No new matter is entered by the above discussion. Further
10 consideration of claims 1 and 9 is respectfully requested.

Sincerely yours,

15

Date: September 14, 2005

Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

20

e-mail : winstonhsu@naipo.com

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)